

# SEQUENCE LISTING

<110> Fisher, Paul B.

<120> Genes Displaying Enhanced Expression During  
Cellular Senescence and Terminal Cell  
Differentiation and Uses Thereof

<130> 0575/56765

<140> WIPO ST. 10/C

<141> 1999-02-03

<160> 50

<170> PatentIn Ver. 2.0

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<211> 674

<212> DNA

<213> Homo sapien

<400> 1

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<212> DNA

<213> Homo sapien

<400> 2

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<212> DNA
<213> Homo sapien

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<211> 675
<212> DNA
<213> Homo sapien

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<400> 4
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<210> 5
<211> 460
<212> DNA

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<213> Homo sapien

<400> 5

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<210> 6

<211> 445

<212> DNA

<213> Homo sapien

<400> 6

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<210> 7

<211> 666

<212> DNA

<213> Homo sapien

<400> 7

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<210> 8

<211> 409

<212> DNA

<213> Homo sapien

<400> 8

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<210> 9

<211> 667

<212> DNA

<213> Homo sapien

<400> 9

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<210> 10

<211> 672

<212> DNA

<213> Homo sapien

<400> 10

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<210> 11

<211> 672

<212> DNA

<213> Homo sapien

<400> 11

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acatgggaaa ag 672
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<210> 12

<211> 669

<212> DNA

<213> Homo sapien

<400> 12

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tntgggata 669
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<210> 13

<211> 702

<212> DNA

<213> Homo sapien

<400> 13

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<210> 14

<211> 312

<212> DNA

<213> Homo sapien

<400> 14

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<210> 15

<211> 391

<212> DNA

<213> Homo sapien

<400> 15

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acatgttgcc aatcagagga tgtgatcaca attcgtaata aaggatccag gagtttttgt 180  
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cctcggaaga gagtctgcat ggagtctgcc aattctactt ctttagaaaa catgttccag 300  
agcagttggg agagttaaag ccgagaatca aacagagtaa ccagaactcg agggggggcc 360  
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<210> 16

<211> 720

<212> DNA

<213> Homo sapien

<400> 16

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<210> 17

<211> 205

<212> DNA

<213> Homo sapien

<400> 17

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cagcattccc cctcaaacct aaaaaaaaaa aaaaaaannt ngnggggggg cccggncccc 180  
anttcnccnt ntngggngnn gnntt 205

<210> 18

<211> 691

<212> DNA

<213> Homo sapien

<400> 18

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catggatctg gtagggggaa aatgtgtatt ttattacatc tttcacattg gctattttaa 180  
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tcctatgtaa ctgcattgag aactgcatat gtttcgctga tatatggggt tttccatttg 660  
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<210> 19

<211> 483

<212> DNA

<213> Homo sapien

<400> 19

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ttagaaagtt tgaatgcaat aaagcgggtgt ttggcggttct cctgcattgt agtgcggtt 300
acaaatgcta attgttccgt caactgggtgt cagcagatga gccgccact acagacggct 360
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<210> 20
<211> 589
<212> DNA
<213> Homo sapien

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<400> 20
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cctccgtggg atttcagggg atttgaagta gaaaaacaga ctgcagaaga aacgggggctt 180
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<210> 21
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<212> DNA
<213> Homo sapien

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<400> 21
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<210> 22
<211> 480
<212> DNA
<213> Homo sapien

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<400> 22  
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 attaagagct tttcataatg aggcccagggt taaccagaa cgtaaaaatc taaaatgatt 420  
 ggtcttgatt tgagcaatgg taaacctcga gggggggccc ggtaccaat tcgccctata 480

<210> 23  
 <211> 198  
 <212> DNA  
 <213> Homo sapien

<400> 23  
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 tatggatatg tgattttgag attaaagtta gtcttaaaat gtaaaaaaaaa aaaaaaaaaa 180  
 aaaaaaaaaa aaaaaaaaaa 198

<210> 24  
 <211> 414  
 <212> DNA  
 <213> Homo sapien

<400> 24  
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 agtgaagggt aagaaagaaa cgggtgaactc cccagctatt tataaatttc agagtcgtcg 180  
 aaaacgttga cgtgttatag ataagccttg tcattctgta tcaaaaatct gttgtcgttt 240  
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 taaattgtca gtctgacatt taatgtcttt ctatggacaa cattaaatct ccctcccttc 360  
 tgtagaanan anannnnnaaa aancncncng gggggggccg ggtccccatt cccc 414

<210> 25  
 <211> 367  
 <212> DNA  
 <213> Homo sapien

<400> 25  
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 attgttcggt attgctcaga aaattcaaac acgcaaagat cttatggata aaactcagaa 120  
 agtgaagggt aagaaagaaa cgggtgaactc cccagctatt tataaatttc agagtcgtcg 180  
 aaaacgttga cgtgttatag ataagccttg tcattctgta tcaaaaatct gttgtcgttt 240  
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 ctgtaaa 367

<210> 26  
 <211> 432  
 <212> DNA  
 <213> Homo sapien

<400> 26  
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 gctgactgga gtatcttcaa gtacaaatcc cttcagaccc cagaaagtct gttccttttt 120  
 gtagtaaaat gaatctttca aagggtttccc aaaccactcc ttatgatcca gtgaatatc 180  
 aagagagcta catttgaagc ctgtacaaaa gcttatccct gtaacacatg tgccataata 240  
 tacaaaacttc tactttcgtc agtccttaac atctacctct ctgaattttc atgaatttct 300  
 atttcacaag ggtaattgtt ttatatacac tggcagcagc atacaataaa acttagtatg 360  
 aaactttaaa aaaaaaaaaa aaaacntcnn ggggggnccc ggancccant tcncctata 420  
 gggngnccgn tt 432

<210> 27  
 <211> 398  
 <212> DNA  
 <213> Homo sapien

<400> 27  
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 aacttcgcaa aatgcctaga tattatccta ctgaagatgt gcctcgaaag ctggtgagcc 120  
 acggcaaaaa acccttcagt cagcacgtga gaaaactgcg agccagcatt acccccggga 180  
 ccattctgat catcctcact ggacgccaca ggggcaagag ggtgggttttc ctgaagcagc 240  
 tggctagtgg cttattactt gtgactggac ctctgggtcct caatcgantt cctctacnaa 300  
 gaacacacca gaaatttgtc attgccactt caaccaaagt cgatntcngc antgtannaa 360  
 atcccaanac atcttactga tgcttacttc aagatgaa 398

<210> 28  
 <211> 232  
 <212> DNA  
 <213> Homo sapien

<400> 28  
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 ctgctgtgat actgagtttt ctaaacagca taaggaagac ttgctccctt gtcctatgaa 120  
 agagaatagt tttggagggg agaagtggga caaaaaagat gcagttttcc tttgtattgg 180  
 gaaatgtgaa aataaaattg tcaactcttt caaaaaaaaaa aaaaaaaaaa aa 232

<210> 29  
 <211> 539  
 <212> DNA  
 <213> Homo sapien

<400> 29  
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tttaggtatc tttctgaagt ggcattctgga gacaacaaac aaaccactgt gtcgaactcc 120
cagcaggctt accaggaagc atttgaaatt agtaagaaag aaatgcagcc tacacacca 180
attcgtcttg gtctggcact aaatttctca gtcttttact atgagattct aaactctcct 240
gaaaaggcct gtagcctggc aaaaacggca tttgatgaag caattgctga attggatagc 300
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ctctgtggac atcggaaaac cagggagacg aaggagacgc tggggaggga gagaactaat 420
gtttctcgtg ctttgtgatc tgttcagtg cactctgtac cctcaacata tatcccttgt 480
gcgataaaaa aaaaanaaaaa aaaaaccntc nggggggggc ccggancccn attccccct 539

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<210> 30

<211> 568

<212> DNA

<213> Homo sapien

<400> 30

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agaacatcaa cagtgtctgtt tctgacactt cagacatccc acgcaaagcc acattgaatt 180
tttgccaaat gaaaaacaca tccacaatca agttctaaga ggggtgtcaag tggggaatat 240
taatatgtgt tattattcaa aaatttagtt tatnaaangg aancaaaacc nttgaacctt 300
ttttcccnaa aaanaaggaa aatntnntgt ngaccaaggg ncgaacctga atccnccttg 360
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aaaatttggt ccaagatttt atattgttcag ttgtttatgt ntaaaaaataa ctttctggat 480
tttgtggggg aggaccggaa aagggaaggga gtttattcct atgtttataca ntanaaaactt 540
ccccnataaa atgccatnga tgggttga 568

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<210> 31

<211> 315

<212> DNA

<213> Homo sapien

<220>

<223> Human sapien

<400> 31

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ccaaaaaagg aggtggctct aagtaaaact gggattggac agtagtggtg catctggtcc 120
ttgccgcctg agagccccag gagacatcgg cttagatgac catggctatg ctcccgtctg 180
gaagatgcca gcatctggcc tcccactggt ttcagctgtg tccccagtc cgtgtctttt 240
tagaatgtga atgatgataa agttgtgaaa taaaggtttc tatctagttt gtaaaaaaaa 300
aaaaaaaaaa aaaaaa 315

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<210> 32

<211> 458

<212> DNA

<213> Homo sapien

<400> 32

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aattcaagga actttacatt gtaagagaaa acaaaacact gcaaaagaag tgtgccgact 60
atcaaataaa tggtgaaatc atctgcaaat gtggccaggc ttggggaaca atgatgggtgc 120
acaaaggctt agatttgcct tgtctcaaaa taaggaattt tgtagtggtt ttcaaaaata 180
attcaacaaa gaaacaatac aaaaagtggg tagaattacc tatcacattt cccaatcttg 240
actattcaga atgctgttta tttagtgtat aggattagca cttgattgaa gattctttta 300
aaatactatc agttaaacat ttaatatgat tatgattaat gnattcatta tgctncagac 360
tgacntanga atcantaaaa ngatngtttt actctgcaaa aaaaaaaaaa aacncggggg 420
ggggcccggc cccaatttcc ccttntgggg ggggggttt 458

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<210> 33
<211> 470
<212> DNA
<213> Homo sapien

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<400> 33
aattcttata ttccagaggc tacaattatt ataatggaca atactttttac ctttgtctct 60
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gaccgagtct tgttgttttag cctaagagaa gatttatgta gtaatttctt ctcagggtatg 180
gaaccacggt cataactaac atgttggcca gaatagaacc actgggttaa catattttat 240
tcaccattaa gtgatcttta tcaatattct ggattagaca acaaattacc tttctgggtg 300
tttcttgtaa actatactcc tgtttgaatg ttaaactttg ttgctaaagt ttaattttta 360
gatgtttgaa tgttcagttt atgtatttga actacaataa accaaccctt tttatataaa 420
aaaaaaaaa aacntcgagg gggggcccgg cccaatttnn ccctataggg 470

```

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<210> 34
<211> 261
<212> DNA
<213> Homo sapien

```

```

<400> 34
aattcgaact gtgtgtatgt cagtggaaatc aaatcaaaag ccactaacat ggctgtctgt 60
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atttctcagt gtttgctatt cagactgtct aaatacagca tgtgacaagc tgaagaagcc 180
aaatctagca gtcatttctg atttcattat attctcccc tcttctctgct aaaaagacaa 240
aaaacaaaaa aaaaaaaaaa a 261

```

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<210> 35
<211> 309
<212> DNA
<213> Homo sapien

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<400> 35
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tctgattggg ggcctagcta tggcttgcca tgactccttc ctcaaggctg tcccttccca 120
gaagcggacc tgaggacccc ttggccctgg ctttcaaacc ccccccttt ccttccagcc 180
tttctgtcat catctccaca gccacccat cccctgagca cactaacac ctcattgcagg 240
ccccacctgc caatagtaat aaagcaatgt cactttttta aaacatgaaa aaaaaaaaaa 300
aaaaaaaaa 309

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<210> 36  
 <211> 243  
 <212> DNA  
 <213> Homo sapien

<400> 36  
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 tgctctcgct gcagttccct ttgggttcca tgttttcctt gttccctccc atgcctagct 180  
 ggattgcaga gttaagtta tgattatgaa ataaaaacta aataacaaaa aaaaaaaaaa 240  
 aaa 243

<210> 37  
 <211> 650  
 <212> DNA  
 <213> Homo sapien

<400> 37  
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 gtacagagta cagctatgct gtgactgttt tggaaaagcca gttttaacac tatgttacat 540  
 ttttgnttaa agnaagttta accttatata acntaatgac atttgatttc tggattttcc 600  
 catgataaaa aattaggggg gataaataaa aatggttact ggaatttcaa 650

<210> 38  
 <211> 687  
 <212> DNA  
 <213> Homo sapien

<400> 38  
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 catacatgca gttaaattccc tttatgcaaa tgtgacactg ctttactagg tcttttagtt 420  
 atttatttat tttttttttt ttgnccant nattttttan nntaatttnt naaacncatt 480  
 attttttttt aaaaataaaaa aacacnactn tttnttttta ananttaaac cttantaaat 540  
 ttttcccccn aaaaaaaatc ccntaanntt ttnaatttnt tgaattnaan annaantaaa 600  
 ctttttttaa aaccnngcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 660

aaaaaaaaaa aaaaaaaaaa aaaaaaa

687

<210> 39

<211> 2549

<212> DNA

<213> Homo sapien

<400> 39

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<210> 40

<211> 649

<212> DNA

<213> Homo sapien

<400> 40

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ttaaacaatcc tactgcccta ggattagaag ttggccaaga aattcagggt aaatactttg 600  
gactgtgacc cagccgatgg aagaatgagg ctttctcgaa aagtgttc 649

<210> 41

<211> 638

<212> DNA

<213> mouse

<400> 41

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gatattaagt tacctggagt accaattaaa attataatgg aagccatcca acaagcgtca 120  
gtggcaaaaga aggagatact gcagataatg aacaaacgat ttcaaacct cgagcatcaa 180  
gaaaagaaaa tggaccaggt gtagaaacag taaaggttcc attatcaaaa cgagcaaaat 240  
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caagagattt cattacagaa atttgcagag atgatcaaga gcaacaatta gaatttggag 420  
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caaacaatgac tgcagtgtg cttcataatt cacaacttga ccaacgaaag attaaacatc 540  
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<210> 42

<211> 705

<212> PRT

<213> Homo sapien

<400> 42

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1 5 10 15

Gln Val Arg Ala Leu Trp Ser Ser Ala Gly Ser Arg Ala Val Ala Val  
 20 25 30

Asp Leu Gly Asn Arg Lys Leu Glu Ile Ser Ser Gly Lys Leu Ala Arg  
 35 40 45

Phe Ala Asp Gly Ser Ala Val Val Gln Ser Gly Asp Thr Ala Val Met  
 50 55 60

Val Thr Ala Val Ser Lys Thr Lys Pro Ser Pro Ser Gln Phe Met Pro  
 65 70 75 80

Leu Val Val Asp Tyr Arg Gln Lys Ala Ala Ala Ala Gly Arg Ile Pro  
 85 90 95

Thr Asn Tyr Leu Arg Arg Glu Val Gly Thr Ser Asp Lys Glu Ile Leu  
 100 105 110

Thr Ser Arg Ile Ile Asp Arg Ser Ile Arg Pro Leu Phe Pro Ala Gly  
 115 120 125

Tyr Phe Tyr Asp Thr Gln Val Leu Cys Asn Leu Leu Ala Val Asp Gly  
 130 135 140

Val Asn Glu Pro Asp Val Leu Ala Ile Asn Gly Ala Ser Val Ala Leu  
 145 150 155 160

Ser Leu Ser Asp Ile Pro Trp Asn Gly Pro Val Gly Ala Val Arg Ile  
 165 170 175

Gly Ile Ile Asp Gly Glu Tyr Val Val Asn Pro Thr Arg Lys Glu Met  
 180 185 190

Ser Ser Ser Thr Leu Asn Leu Val Val Ala Gly Ala Pro Lys Ser Gln  
 195 200 205

Ile Val Met Leu Glu Ala Ser Ala Glu Asn Ile Leu Gln Gln Asp Phe  
 210 215 220

Cys His Ala Ile Lys Val Gly Val Lys Tyr Thr Gln Gln Ile Ile Gln  
 225 230 235 240

Gly Ile Gln Gln Leu Val Lys Glu Thr Gly Val Thr Lys Arg Thr Pro  
 245 250 255

Gln Lys Leu Phe Thr Pro Ser Pro Glu Ile Val Lys Tyr Thr His Lys  
 260 265 270

Leu Ala Met Glu Arg Leu Tyr Ala Val Phe Thr Asp Tyr Glu His Asp  
 275 280 285

Lys Val Ser Arg Asp Glu Ala Val Asn Lys Ile Arg Leu Asp Thr Glu  
 290 295 300

Glu Gln Leu Lys Glu Lys Phe Pro Glu Ala Asp Pro Tyr Glu Ile Ile  
 305 310 315 320

Glu Ser Phe Asn Val Val Ala Lys Glu Val Phe Arg Ser Ile Val Leu  
 325 330 335

Asn Glu Tyr Lys Arg Cys Asp Gly Arg Asp Leu Thr Ser Leu Arg Asn  
 340 345 350

Val Ser Cys Glu Val Asp Met Phe Lys Thr Leu His Gly Ser Ala Leu  
 355 360 365

Phe Gln Arg Gly Gln Thr Gln Val Leu Cys Thr Val Thr Phe Asp Ser  
 370 375 380

Leu Glu Ser Gly Ile Lys Ser Asp Gln Val Ile Thr Ala Ile Asn Gly  
 385 390 395 400

Ile Lys Asp Lys Asn Phe Met Leu His Tyr Glu Phe Pro Pro Tyr Ala  
 405 410 415

Thr Asn Glu Ile Gly Lys Val Thr Gly Leu Asn Arg Arg Glu Leu Gly  
 420 425 430

His Gly Ala Leu Ala Glu Lys Ala Leu Tyr Pro Val Ile Pro Arg Asp  
 435 440 445

Phe Pro Phe Thr Ile Arg Val Thr Ser Glu Val Leu Glu Ser Asn Gly  
 450 455 460

Ser Ser Ser Met Ala Ser Ala Cys Gly Gly Ser Leu Ala Leu Met Asp  
 465 470 475 480

Ser Gly Val Pro Ile Ser Ser Ala Val Ala Gly Val Ala Ile Gly Leu  
 485 490 495

Val Thr Lys Thr Asp Pro Glu Lys Gly Glu Ile Glu Asp Tyr Arg Leu  
 500 505 510

Leu Thr Asp Ile Leu Gly Ile Glu Asp Tyr Asn Gly Asp Met Asp Ph  
 515 520 525

Lys Ile Ala Gly Thr Asn Lys Gly Ile Thr Ala Leu Gln Ala Asp Ile  
 530 535 540

Lys Leu Pro Gly Ile Pro Ile Lys Ile Val Met Glu Ala Ile Gln Gln  
 545 550 555 560

Ala Ser Val Ala Lys Lys Glu Ile Leu Gln Ile Met Asn Lys Thr Ile  
 565 570 575

Ser Lys Pro Arg Ala Ser Arg Lys Glu Asn Gly Pro Val Val Glu Thr  
 580 585 590

Val Gln Val Pro Leu Ser Lys Arg Ala Lys Phe Val Gly Pro Gly Gly  
 595 600 605

Tyr Asn Leu Lys Lys Leu Gln Ala Glu Thr Gly Val Thr Ile Ser Gln  
 610 615 620

Val Asp Glu Glu Thr Phe Ser Val Phe Ala Pro Thr Pro Ser Val Met  
 625 630 635 640

His Glu Ala Arg Asp Phe Ile Thr Glu Ile Cys Lys Asp Asp Gln Glu  
 645 650 655

Gln Gln Leu Glu Phe Gly Ala Val Tyr Thr Ala Thr Ile Thr Glu Ile  
 660 665 670

Arg Asp Thr Gly Val Met Val Lys Leu Tyr Pro Asn Met Thr Ala Val  
 675 680 685

Leu Leu His Asn Thr Gln Leu Asp Asn Glu Arg Leu Asn Ile Leu Leu  
 690 695 700

Pro  
 705

<210> 43

<211> 665

<212> PRT

<213> Homo sapien

<400> 43

Met Gly Gln Glu Lys His Val Phe Thr Ile Asp Trp Ala Gly Arg Thr  
 1 5 10 15

Leu Thr Leu Thr Val Asn Tyr Glu Glu Arg Leu Tyr Ala Val Gly Lys

[illegible]



530	535	540
Gly Val Lys Ile Asp Ile Glu Gln Asp Gly Thr Il Phe Ile Ser Ser		
545	550	555 560
Thr Asp Glu Ser Gly Asn Gln Lys Ala Lys Lys Ile Ile Glu Asp Leu		
	565	570 575
Val Arg Glu Val Glu Val Gly Gln Leu Tyr Leu Gly Lys Val Lys Arg		
	580	585 590
Ile Glu Lys Phe Gly Ala Phe Val Glu Ile Phe Ser Gly Lys Asp Gly		
	595	600 605
Leu Val His Ile Ser Glu Leu Ala Leu Glu Arg Val Gly Lys Val Glu		
	610	615 620
Asp Val Val Lys Ile Gly Asp Glu Ile Leu Val Lys Val Thr Glu Ile		
	625	630 635 640
Asp Lys Gln Gly Arg Val Asn Leu Ser Arg Lys Ala Val Leu Arg Glu		
	645	650 655
Glu Lys Glu Lys Glu Glu Gln Gln Ser		
	660	665

<210> 44  
 <211> 704  
 <212> PRT  
 <213> Homo sapien

<400> 44  
 Asp Gly Pro Phe Leu Leu Pro Arg Arg Asp Arg Ala Leu Thr Gln Leu  
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 Gln Val Arg Ala Leu Trp Ser Ser Ala Gly Ser Arg Ala Val Ala Val  
 20 25 30  
 Asp Leu Gly Asn Arg Lys Leu Glu Ile Ser Ser Gly Lys Leu Ala Arg  
 35 40 45  
 Phe Ala Asp Gly Ser Ala Val Val Gln Ser Gly Asp Thr Ala Val Met  
 50 55 60  
 Val Thr Ala Val Ser Lys Thr Lys Pro Ser Pro Ser Gln Phe Met Pro  
 65 70 75 80

Leu Val Val Asp Tyr Arg Gln Lys Ala Ala Ala Ala Gly Arg Ile Pro  
 85 90 95  
 Thr Asn Tyr Leu Arg Arg Glu Val Gly Thr Ser Asp Lys Glu Ile Leu  
 100 105 110  
 Thr Ser Arg Ile Ile Asp Arg Ser Ile Arg Pro Leu Phe Pro Ala Gly  
 115 120 125  
 Tyr Phe Tyr Asp Thr Gln Val Leu Cys Asn Leu Leu Ala Val Asp Gly  
 130 135 140  
 Val Asn Glu Pro Asp Val Leu Ala Ile Asn Gly Ala Ser Val Ala Leu  
 145 150 155 160  
 Ser Leu Ser Asp Ile Pro Trp Asn Gly Pro Val Gly Val Arg Ile Gly  
 165 170 175  
 Ile Ile Asp Gly Glu Tyr Val Val Asn Pro Thr Arg Lys Glu Met Ser  
 180 185 190  
 Ser Ser Thr Leu Asn Leu Val Val Ala Gly Ala Pro Lys Ser Gln Ile  
 195 200 205  
 Val Met Leu Glu Ala Ser Ala Glu Asn Ile Leu Gln Gln Asp Phe Cys  
 210 215 220  
 His Ala Ile Lys Val Gly Val Lys Tyr Thr Gln Gln Ile Ile Gln Gly  
 225 230 235 240  
 Ile Gln Gln Leu Val Lys Glu Thr Gly Val Thr Lys Arg Thr Pro Gln  
 245 250 255  
 Lys Leu Phe Thr Pro Ser Pro Glu Ile Val Lys Tyr Thr His Lys Leu  
 260 265 270  
 Ala Met Glu Arg Leu Tyr Ala Val Phe Thr Asp Tyr Glu His Asp Lys  
 275 280 285  
 Val Ser Arg Asp Glu Ala Val Asn Lys Ile Arg Leu Asp Thr Glu Glu  
 290 295 300  
 Gln Leu Lys Glu Lys Phe Pro Glu Ala Asp Pro Tyr Glu Ile Ile Glu  
 305 310 315 320  
 Ser Phe Asn Val Val Ala Lys Glu Val Phe Arg Ser Ile Val Leu Asn  
 325 330 335

Glu	Tyr	Lys	Arg	Cys	Asp	Gly	Arg	Asp	Leu	Thr	Ser	Leu	Arg	Asn	Val	340	345	350	
Ser	Cys	Glu	Val	Asp	Met	Phe	Lys	Thr	Leu	His	Gly	Ser	Ala	Leu	Phe	355	360	365	
Gln	Arg	Gly	Gln	Thr	Gln	Val	Leu	Cys	Thr	Val	Thr	Phe	Asp	Ser	Leu	370	375	380	
Glu	Ser	Gly	Ile	Lys	Ser	Asp	Gln	Val	Ile	Thr	Ala	Ile	Asn	Gly	Ile	385	390	395	400
Lys	Asp	Lys	Asn	Phe	Met	Leu	His	Tyr	Glu	Phe	Pro	Pro	Tyr	Ala	Thr	405	410	415	
Asn	Glu	Ile	Gly	Lys	Val	Thr	Gly	Leu	Asn	Arg	Arg	Glu	Leu	Gly	His	420	425	430	
Gly	Ala	Leu	Ala	Glu	Lys	Ala	Leu	Tyr	Pro	Val	Ile	Pro	Arg	Asp	Phe	435	440	445	
Pro	Phe	Thr	Ile	Arg	Val	Thr	Ser	Glu	Val	Leu	Glu	Ser	Asn	Gly	Ser	450	455	460	
Ser	Ser	Met	Ala	Ser	Ala	Cys	Gly	Gly	Ser	Leu	Ala	Leu	Met	Asp	Ser	465	470	475	480
Gly	Val	Pro	Ile	Ser	Ser	Ala	Val	Ala	Gly	Val	Ala	Ile	Gly	Leu	Val	485	490	495	
Thr	Lys	Thr	Asp	Pro	Glu	Lys	Gly	Glu	Ile	Glu	Asp	Tyr	Arg	Leu	Leu	500	505	510	
Thr	Asp	Ile	Leu	Gly	Ile	Glu	Asp	Tyr	Asn	Gly	Asp	Met	Asp	Phe	Lys	515	520	525	
Ile	Ala	Gly	Thr	Asn	Lys	Gly	Ile	Thr	Ala	Leu	Gln	Ala	Asp	Ile	Lys	530	535	540	
Leu	Pro	Gly	Ile	Pro	Ile	Lys	Ile	Val	Met	Glu	Ala	Ile	Gln	Gln	Ala	545	550	555	560
Ser	Val	Ala	Lys	Lys	Glu	Ile	Leu	Gln	Ile	Met	Asn	Lys	Thr	Ile	Ser	565	570	575	
Lys	Pro	Arg	Ala	Ser	Arg	Lys	Glu	Asn	Gly	Pro	Val	Val	Glu	Thr	Val	580	585	590	

Gln Val Pro Leu Ser Lys Arg Ala Lys Phe Val Gly Pro Gly Gly Tyr  
595 600 605

Asn Leu Lys Lys Leu Gln Ala Glu Thr Gly Val Thr Ile Ser Gln Val  
610 615 620

Asp Glu Glu Thr Phe Ser Val Phe Ala Pro Thr Pro Ser Val Met His  
625 630 635 640

Glu Ala Arg Asp Phe Ile Thr Glu Ile Cys Lys Asp Asp Gln Glu Gln  
645 650 655

Gln Leu Glu Phe Gly Ala Val Tyr Thr Ala Thr Ile Thr Glu Ile Arg  
660 665 670

Asp Thr Gly Val Met Val Lys Leu Tyr Pro Asn Met Thr Ala Val Leu  
675 680 685

Leu His Asn Thr Gln Leu Asp Asn Glu Arg Leu Asn Ile Leu Leu Pro  
690 695 700

<210> 45

<211> 245

<212> PRT

<213> B subtilis

<400> 45

Asp Arg Leu Gly Leu Ala Ala Gly Gly Asp Thr Ala Val Thr Ala Pro  
1 5 10 15

Pro Phe Pro Leu Val Tyr Ala Gly Ile Pro Arg Glu Ser Lys Leu Ser  
20 25 30

Arg Ile Asp Arg Ile Arg Pro Leu Phe Gly Gln Val Val Asp Ala Gly  
35 40 45

Ser Ala Leu Ser Ser Asp Ile Gly Pro Val Gly Ile Asp Asn Pro Thr  
50 55 60

Ser Asn Leu Val Val Ala Gly Lys Ile Met Glu Ala Ala Ala Ile Gly  
65 70 75 80

Ile Val Gly Lys Lys Leu Phe Glu Leu Ala Glu Leu Glu Lys Glu Val  
85 90 95

Glu Val Arg Ile Glu Arg Asp Gly Arg Arg Ser Glu Val His Gly Ser  
 100 105 110  
 Leu Phe Arg Gly Gln Thr Gln Leu Thr Leu Asp Lys Phe Met His Tyr  
 115 120 125  
 Phe Pro Glu Gly Gly Arg Arg Glu Gly His Gly Ala Leu Glu Ala Leu  
 130 135 140  
 Pro Val Ile Pro Asp Phe Pro Thr Arg Ser Glu Val Leu Glu Ser Asn  
 145 150 155 160  
 Gly Ser Ser Ala Ser Cys Leu Ala Met Asp Gly Val Pro Ile Val Ala  
 165 170 175  
 Gly Ala Gly Leu Val Glu Tyr Leu Thr Asp Ile Gly Glu Asp Gly Asp  
 180 185 190  
 Met Asp Phe Lys Ala Gly Thr Lys Gly Thr Ala Leu Gln Asp Ile Lys  
 195 200 205  
 Gly Ile Glu Ala Gln Gln Ala Glu Ile Leu Met Thr Ser Arg Pro Thr  
 210 215 220  
 Lys Gly Pro Gly Lys Glu Thr Gly Val Ile Thr Ser Ala Ile Gln Leu  
 225 230 235 240  
 Gly Val Lys Leu Glu  
 245

<210> 46  
 <211> 47  
 <212> RNA  
 <213> Homo sapien

<400> 46  
 uaaauuuuau auauuuuauu uuuuuuuuuu uuuuuuuuuu uuuuuuuu

47

<210> 47  
 <211> 11  
 <212> RNA  
 <213> Homo sapien

<400> 47  
 uuuuuuuuuu a

11

<210> 48  
<211> 33  
<212> RNA  
<213> Homo sapien

<400> 48  
uauuuauuuu aaauuuuuaa uuuuauuuu aa

33

<210> 49  
<211> 62  
<212> RNA  
<213> Homo sapien

<400> 49  
guuuuuuuuu uauuuauuaa gauggauucu cagauuuua uauuuuuuuu uuuuuuuuuu 60  
uu 62

<210> 50  
<211> 111  
<212> RNA  
<213> Homo sapien

<400> 50  
auuuuacaugu gccauuuuuu uaaauucgagu aaccuauuu uguuuuuuug uauuuacauu 60  
auuuuacauu aaauuuuuu uauuuuuuuu aagucuuuu uacauuuuag a 111